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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,659	12/11/2003	Jeffery S. Chase	RSW9-2003-0246US1 (7161-1)	8866
46320	7590	09/11/2006	EXAMINER PATEL, HETUL B	
CAREY, RODRIGUEZ, GREENBERG & PAUL, LLP STEVEN M. GREENBERG 1300 CORPORATE CENTER WAY SUITE 105G WELLINGTON, FL 33414			ART UNIT 2186	
DATE MAILED: 09/11/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/733,659

Applicant(s)

CHASE ET AL.

Examiner

Hetul Patel

Art Unit

2186

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,11,12 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 3,9,10 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action is in response to the communication filed on July 11, 2006. Claims 1-16 are again presented for examination.
2. Applicant's arguments filed on July 11, 2006 have been fully considered but they are not deemed to be persuasive.
3. The rejection of claims 1-2, 4-8, 11-12 and 14-16 as in the previous Office Action is respectfully maintained and reiterated below for Applicant's convenience.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should be more specific to differentiate the invention from similar inventions in the patent literature. The following aspect(s) of the invention should be mentioned in the title so that the title is more descriptive:

“computing Zipf alpha coefficient for current cache size, trace footprint and cache hit rate, and then, computing the optimal cache size based on the selected hit rate”

The following title is suggested:

“Computing the optimal cache size based on the target hit rate after computing Zipf alpha coefficient for current cache size, trace footprint and cache hit rate”

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-6, 11 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by the content of the web page

<http://polygraph.ircache.net/Workloads/PolyMix-2/> posted on 05/29/2001, hereinafter, WEB.

As per claim 1, WEB discloses results of the workload “polymix-2” with a simple diagram showing a four-day trace of proxy load. WEB further discloses a table (on page 4 of 8) with different hit ratios (i.e. hit rates) determined in response to (different) given cache size(s) and the trace (i.e. in “Unif” column). WEB also computes the Zipf alpha coefficient for (different) given cache size(s), trace footprint and hit rate (i.e. “Zipf(0.2)”, “Zipf(0.4)” and “Zipf(0.6)” columns). The steps of selecting an optimal hit rate and computing an optimal cache size are inherent in the WEB disclosure because from the table, for any given/selected “optimal” hit rate/ratio, the optimal cache size is calculated as shown in the “cache size” column. For example, if the selected hit rate/ratio is 8.5, then the optimal cache size for that selected hit rate is 10.

As per claim 4, WEB teaches the claimed invention as described above and furthermore, WEB teaches that said determining step comprises parsing a log of server

activity (i.e. recording how many hits for a given amount of time and requests) to identify said hit rate (e.g. see table on page 4 of 8).

As per claims 5 and 6, WEB teaches the claimed invention as described above and furthermore, WEB teaches that said identifying step comprises the step of identifying a current cache size (i.e. the cache size column in the table on page 4 of 8) and a contemporaneously experienced trace footprint (i.e. trace value) for a single content delivery server (i.e. for any one specific robot or server) and for a cluster of servers (i.e. for each robot or server) (e.g. see under "6.1 Allocation scheme" title on page 6 of 8).

As per claims 11 and 14-16, see arguments with respect to the rejection of claims 1 and 4-6, respectively. Claims 11 and 14-16 are also rejected based on the same rationale as the rejection of claims 1 and 4-6, respectively.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2, 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over WEB.

As per claim 2, WEB teaches the claimed invention as described above, but WEB does not clearly disclose about reconfiguring the cache memory allocation based

upon said optimal cache size. However, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to reconfigure the cache memory allocation based upon said optimal cache size to achieve the desired/selected hit rate.

As per claim 7-8, WEB teaches the method for first computing Zipf alpha coefficient for current cache size, trace footprint and cache hit rate, and then, computing the optimal cache size based on the selected hit rate as described above in the rejection of claim 1, but does not clearly disclose about having a processor for computing Zipf alpha coefficient, a processor for computing optimal cache size and a sever log storing statistics. However, it would have been obvious to one of ordinary skill in the art at the time of the current invention was made to implement this method/model steps taught by WEB into a system and connect it via a communicative link as claimed so the system can be used to calculate the optimum cache size for one or more server(s) without running the software simulation.

As per claim 12, see arguments with respect to the rejection of claim 2. Claim 12 is also rejected based on the same rationale as the rejection of claim 2.

#### ***Allowable Subject Matter***

7. Claims 3, 9-10 and 13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Remarks***

8. As to the remark, Applicant asserted that
- (a) The Examiner's statement of the rejection only addresses a "cache size" and "a trace" without any mention that the cache size is current or that the trace footprint is contemporaneously experienced.
  - (b) Applicant submit that the Examiner's reliance upon the doctrine of inherency to disclose the claimed computing and selecting steps is misplaced. The Examiner did not discharge the burden of indicating where such a teaching or suggestion appears in the prior art.

Examiner respectfully traverses Applicant's remark for the following reasons:

With respect to (a) and (b), even though the table disclosed on page 4 of 8 of the WEB prior art does not list every single possible sizes as a current cache size to calculate the hit ratio, it (i.e. a BIG table having all cache sizes along with contemporaneously experienced trace footprint) can be derived from the graphical version of the table disclosed by WEB. In other words, an optimal cache size for the targeted hit rate/ratio can be derived from the graphical version of the table disclosed by WEB.

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hetul Patel whose telephone number is 571-272-4184. The examiner can normally be reached on M-F 8-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on 571-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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